Joseph W. Cutler

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Education

- **Wesleyan University**, Middletown, CT — May 2021
  - **Bachelor of Arts**, Double Major: *Computer Science* and *Mathematics*, GPA 3.79/4.00.
  - Course Assistant: Computer Science II, Intro Programming
- **Trevor Day School**, New York, NY — June 2017
  - High School Diploma

Work and Research Experience

- **University Research Fellow**, Wesleyan University, Middletown, CT — Summer 2018
  Research conducted under the supervision of Professor Dan Licata.
  - Developed an affine type system with a modality internalizing the affine structure and associated semantics.
  - Created a translation into a language expressing program cost, proved that the translation was correct with a logical relation
- **Student Forum Leader**, Wesleyan University, Middletown, CT — Spring 2018
  Lectured on Haskell, alongside a grad student who had designed the course. Topics included the functor/applicative/monad hierarchy, monadic parsing, basic category theory, and much more.
- **Software Development Intern**, Flatiron School, NYC — Summer 2016, 2017, Winter 2018
  Worked on Flatiron School's online learning platform, Learn.co.
  - Optimized IDE usage monitor by writing highly parallel Elixir code. (Winter 2018)
  - Built a usage monitoring system for Learn.co's proprietary IDE. Fixed rendering problems with the frontend. Expanded internal API. (Summer 2017)
  - Built a system that automatically categorizes issue tickets with Python. Improved internal student progress analytics with ReactJS. (Summer 2016)
- **Teaching Assistant**, Flatiron School, New York, NY — Fall 2014 - Summer 2015
  Served as a teaching assistant for Flatiron School's pre-college program. Program focused on web development with Ruby, along with basic frontend. Courses ran on weekends during the school year, and weekdays during the summer.

Personal Coding Projects

- **Raytracer**: Wrote a raytracer in C++ utilizing Blinn-Phong shading and texture mapping.
- **Mastermind**: Terminal-based mastermind game in Haskell using monad transformers.

Skills

- Programming: Web development (Ruby/Rails, JavaScript, Frontend MVC Frameworks), Functional programming (Haskell, Standard ML, Idris), LaTeX, Lower level languages (C, C++).
- Other: Unix, Git, and Vim. Beginner knowledge of hobby electronics and Arduino. Conversant in data science methods - familiar with R and related tools.